about $\frac{2}{3}$ the orbit; caudal peduncle as long as head. (Japan, L. Biwa) ..	*L. biwæ* (Jordan & Snyder) *.
aa. Scales 35; 4–4½ scales between lateral line and middle of belly; barbel as long as or a little longer than eye; caudal peduncle shorter than head. (S. Korea.)	*L. coreanus*, Berg.
A A. Eye small, 4 or more in length of head.	
b. Body deep; depth of body not more than 5 in its length (without caudal).	
c. Caudal peduncle less than twice as long as deep.	
d. Origin of dorsal in advance of ventral; barbel shorter than eye. (Central Japan.)	*L. Güntheri*, Ishikawa †.
dd. Dorsal opposite to ventral; barbel very minute. (Head-water of Yangtsekiang.)	*L. tæniatus*, Günther ‡.
cc. Caudal peduncle more than twice as long as deep.	
e. Maxillary not reaching behind middle of snout. (Hui-hsien, Southern Kansu.)	*L. Herzensteini*, Günther §.
ee. Maxillary reaching behind middle of snout. (S. Japan.).....	*L. Mayedæ* (Jordan & Snyder) ‖.
bb. Body slender; its depth more than 5 in its length. (Japan, L. Biwa.)	*L. Jordani*, Ishikawa ¶.

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

May 23rd, 1906.—R. S. Herries, M.A., Vice-President, in the Chair.

The following communications were read:—

1. 'On the Importance of *Halimeda* as a Reef-forming Organism; with a Description of the *Halimeda*-Limestones of the New Hebrides.' By Frederick Chapman, A.L.S., F.R.M.S., and Douglas Mawson, B.E., B.Sc.

Calcareous algæ, nullipores, *Lithothamnion*, etc., have been frequently referred to as forming important contributions to the rock of coral-reefs. The material obtained in the great boring, the lagoon-borings, and lagoon-dredging at Funafuti has yielded a

* Proc. U.S. Nat. Mus. xxiii. 1900, p. 340; xxvi. 1903, p. 829.
† Annot. zool. japon. iii. 1901, p. 161.
‡ Ann. Mus. Zool. Pétersb. i. 1896, p. 214.
§ *L. c.* p. 213.
‖ Proc. U.S. Nat. Mus. xxiii. p. 342; xxvi. p. 828.
¶ Ann. zool. jap. iii. 1901, p. 163.

considerable quantity of *Halimeda*; and Dr. Guppy has described a *Halimeda*-Limestone in the Solomon Islands. Evidence such as this shows that the important deposits of calcareous plant-remains forming at the present day can scarcely be paralleled by any deposit formed in past geological times except, possibly, the limestones of the Alpine Trias, which owe their origin to the thallophytes *Diplopora* and *Gyroporella*. Among other *Halimeda*-Limestones mentioned by the Authors are those of Christmas Island, Fiji and Tonga, and the New Hebrides. The examples from the last-named group are described in detail. They differ considerably one from the other in the condition of preservation of their chief organic contents. Chemical and microscopic analyses of the several examples are given. *Halimeda* seems to be more liable to decay than *Lithothamnion*, corals, or foraminifera, and yet it appears to retain its structure to a considerable depth in reefs. Much of the fine powdery limestone associated with coral-reefs, and more especially with upraised coral-islands, may be primarily due to lagoon and other deposits formed by the agency of *Halimeda*.

2. 'Notes on the Genera *Omospira*, *Lophospira*, and *Turritoma*; with Descriptions of New Species.' By Miss Jane Donald.

In a previous paper the Author referred to the researches of Ulrich and Koken among the earlier gasteropoda, and to the groups into which they had divided them. Much knowledge is still required, with regard to their origin and relationships, before really-satisfactory divisions can be made. The new species described in the paper belong to three genera, characterized by the possession of a band on all the whorls formed by the gradual filling-up during growth of a sinus, and not a slit, in the outer lip. The genera *Lophospira*, Whitfield, and *Turritoma*, Ulrich, are not really true Murchisonidæ, but are allowed for the present to remain in that family. Ulrich places *Omospira* in the family Raphistomidæ, but it is not a characteristic member, for the whorls are more convex and the spire higher than is the case with the other genera belonging to the family. Ulrich's description is quoted and discussed, and one new species is described from beds of Upper Bala age. Of the genus *Lophospira*, Ulrich's four sections, and subsections of certain of these, are discussed. Five new species are referred to the *perangulata*-section, one new species and one variety to the *bicincta*-section, and one species to the *robusta*-section. One new species is described of *Turritoma*. The specimens dealt with are mainly from the collections of Mrs. Gray, the Sedgwick Museum, the Bristol Museum, and the Geological Survey of Scotland.